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Notice of Allowability	Application No.	Applicant(s)	
	10/024,314	YAMADA ET AL.	
	Examiner	Art Unit	
	Dung Nguyen	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to request for continued examination dated 08/18/2003.
2. ☒ The allowed claim(s) is/are 1, 3-11 and 22-31.
3. ☒ The drawings filed on 12/21/2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/990,132.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Dung Nguyen
Patent Examiner
Art Unit: 2871

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/18/2003 has been entered.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 12/21/2001 is being considered by the examiner and attached to the office action dated 07/30/2002. In convenience, a copy of such IDS is attached to this office action.

Examiner's Statement of Reasons for Allowance

3. Claim 1, 3-11 and 22-31 are allowed.

4. The following is an examiner's statement of reasons for allowance:

None of the prior art of record suggests or discloses alone or in combination that a liquid crystal display (LCD) device having a pair of substrates and a continuous liquid crystal layer provided between the substrates, wherein a negative dielectric anisotropy liquid crystal molecules are aligned in a direction substantially vertical to the substrates when no voltage is being applied and axis-symmetrically aligned in each of a plurality of pixel regions under application of a voltage, wherein a thickness (din) of the liquid crystal layer in the pixel regions

Art Unit: 2871

is larger than a thickness (d_{out}) of the liquid crystal layer outside of the pixel regions as set forth in claims 1 and 22. Furthermore, the LCD comprising an area of the region in which the liquid crystal molecules keep a homeotropic alignment state (S_a) and an area of the pixel region (A) satisfies the relationship of $0 < S_a/A < 4\%$ as set forth in claims 24 and 26.

The most relevant reference, Yamada et al. (US Patent No. 5,473,450), fail to disclose or suggest an LCD device having a continuous liquid crystal layer provided between substrates as well as a thickness (d_{in}) of the liquid crystal layer in the pixel regions is larger than a thickness (d_{out}) of the liquid crystal layer outside of the pixel regions and the LCD having an area of the region in which the liquid crystal molecules keep a homeotropic alignment state (S_a) and an area of the pixel region (A) satisfies the relationship of $0 < S_a/A < 4\%$. The Yamada et al. reference only discloses the LCD device having a negative dielectric anisotropy liquid crystal molecules are aligned in a direction substantially vertical to the substrates when no voltage is being applied and axis-symmetrically aligned in each of a plurality of pixel regions under application of a voltage as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 703-305-0423. The examiner can normally be reached on Monday-Thursday.

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DN
11/17/2003



Dung Nguyen
Patent Examiner
Art Unit 2871